WHAT IS CLAIMED IS:

1. A substantially pure τ -conotoxin peptide selected from the group consisting of:

Phe-Cys-Cys-Xaa₁-Val-Ile-Arg-Xaa₂-Cys-Cys-Xaa₃ (SEQ ID NO:2);

 $\label{eq:cys-Gln-Thr-Phe-Xaa} Cys-Cys-Gln \quad (SEQ \quad ID \\ NO:4);$

Xaa₄-Gly-Xaa₃-Cys-Cys-Xaa₅-Xaa₆-Asn-Ile-Ala-Cys-CysIle (SEQ ID NO:5);

Gly-Cys-Cys-Ala-Arg-Leu-Thr-Cys-Cys-Val (SEQ ID
NO:6);

Asn-Gly-Cys-Cys-Xaa₁-Xaa₅-Gln-Met-Arg-Cys-Cys-Thr (SEQ ID NO:7);

Asp-Xaa₃-Asn-Ser-Cys-Cys-Gly-Xaa₅-Asn-Xaa₁-Gly-Cys-Cys-Xaa₁-Xaa₃ (SEQ ID NO:8);

Xaa₄-Gly-Xaa₃-Cys-Cys-Xaa₅-Xaa₆-Asn-Ile-Arg-Cys-Cys-Val (SEQ ID NO:9);

 $\label{eq:Xaa_6-Cys-Cys-Xaa_6-Asp-Gly-Xaa_3-Cys-Cys-Thr-Ala-Ala-Xaa_1-Leu-Thr (SEQ ID NO:10);}$

Gly-Cys-Cys-Xaa₆-Asp-Gly-Xaa₃-Cys-Cys-Thr-Ala-Ala-Xaa₁-Leu-Thr (SEQ ID NO:11);

Asn-Gly-Cys-Cys-Arg-Ala-Gly-Asp-Cys-Cys-Ser-Arg-Phe-Xaa₆-Ile-Xaa₅-Xaa₆-Asn-Ăsp-Phe (SEQ ID NO:12);

Asn-Ala-Cys-Cys-Ile-Val-Arg-Gln-Cys-Cys (SEQ ID NO:13);

Asn-Gly-Cys-Cys-Arg-Ala-Gly-Asp-Cys-Cys-Ser (SEQ ID NO:14);

Cys-Cys-Xaa₁-Arg-Arg-Leu-Ala-Cys-Cys-Ile-Ile (SEQ ID NO:15);

 $\label{eq:cys-Xaa_1-Asn-Xaa_5-Xaa_1-Cys-Cys-Phe-Ile} \mbox{ (SEQ ID NO:16)};$

Gly-Cys-Cys-Ala-Met-Leu-Thr-Cys-Cys-Val (SEQ ID NO:17);

 $\label{leu-Cys-Cys-Val-Thr-Xaa} Leu-Cys-Cys-Val-Thr-Xaa_6-Asp-Xaa_3-Cys-Cys-Xaa_6-Xaa_3-Xaa_3-Cys-Cys-Xaa_6-Xaa_3-Xaa_$

Val-Cys-Cys-Arg-Xaa₁-Val-Gln-Asp-Cys-Cys-Ser (SEQ ID NO:19);

wherein Xaa₁ is Pro or hydroxy-Pro; Xaa₂ is Tyr, monohalo-Tyr, di-halo-Tyr, O-sulpho-Tyr, O-phospho-Tyr or nitro-Tyr; Xaa₃ is Trp or halo-Trp; Xaa₄ is Gln or pyro-Glu; Xaa₅ is Lys, N-methyl-Lys, N,N-dimethyl-Lys or N,n,N-trimethyl-Lys, Xaa₆ is Glu or gamma-carboxy-Glu (Gla); and the C-terminus contains a carboxyl or amide group.

- The substantially pure τ-conotoxin peptide of claim 1, wherein Xaa₆ is Glu.
- 3. The substantially pure τ -conotoxin peptide of claim 1, wherein Xaa_5 is Lys.
- 4. The substantially pure τ -conotoxin peptide of claim 1, wherein Xaa_4 is Gln.
- 5. The substantially pure τ -conotoxin peptide of claim 1, wherein Xaa_2 is mono-iodo-Tyr.
- 6. The substantially pure τ -conotoxin peptide of claim 1, wherein Xaa_2 is di-iodo-Tyr.
- 7. The substantially pure τ -conotoxin peptide of claim 1, wherein said peptide has the sequence set forth in SEQ ID NO:2, wherein Xaa₁ is Pro, Xaa₂ is Tyr and Xaa₃ is Trp.

- 8. The substantially pure τ -conotoxin peptide of claim 1, wherein said peptide has the sequence set forth in SEQ ID NO:4, wherein Xaa₂ is Tyr and Xaa₃ is Trp.
- 9. The substantially pure τ-conotoxin peptide of claim 1, wherein said peptide has the sequence set forth in SEQ ID NO:5, wherein wherein Xaa₃ is Trp, Xaa₄ is Gln, Xaa₅ is Lys and Xaa₆ is Glu.
- 10. The substantially pure τ -conotoxin peptide of claim 1, wherein said peptide has the sequence set forth in SEQ ID NO:6.
- 11. The substantially pure τ -conotoxin peptide of claim 1, wherein said peptide has the sequence set forth in SEQ ID NO:7, wherein Xaa₁ is Pro and Xaa₅ is Lys.
- 12. The substantially pure t-conotoxin peptide of claim 1, wherein said peptide has the sequence set forth in SEQ ID NO:8, wherein Xaa₁ is Pro, Xaa₃ is Trp and Xaa₅ is Lys.
- 13. The substantially pure τ -conotoxin peptide of claim 1, wherein said peptide has the sequence set forth in SEQ ID NO:9, wherein Xaa $_3$ is Trp, Xaa $_4$ is Gln, Xaa $_5$ is Lys and Xaa $_6$ is Glu.
- 14. The substantially pure τ-conotoxin peptide of claim 1, wherein said peptide has the sequence set forth in SEQ ID NO:10, wherein Xaa₁ is Pro, Xaa₃ is Trp and Xaa₆ is Glu.

- 15. The substantially pure τ-conotoxin peptide of claim 1, wherein said peptide has the sequence set forth in SEQ ID NO:11, wherein Xaa₁ is Pro, Xaa₃ is Trp and Xaa₆ is Glu.
- 16. The substantially pure τ-conotoxin peptide of claim 1, wherein said peptide has the sequence set forth in SEQ ID NO:12, wherein Xaa₅ is Lys and Xaa₆ is Glu.
- 17. The substantially pure τ -conotoxin peptide of claim 1, wherein said peptide has the sequence set forth in SEQ ID NO:13.
- 18. The substantially pure τ -conotoxin peptide of claim 1, wherein said peptide has the sequence set forth in SEQ ID NO:14.
- 19. The substantially pure τ -conotoxin peptide of claim 1, wherein said peptide has the sequence set forth in SEQ ID NO:15, wherein Xaa₁ is Pro.
- 20. The substantially pure τ -conotoxin peptide of claim 1, wherein said peptide has the sequence set forth in SEQ ID NO:16, wherein Xaa₁ is Pro and Xaa₅ is Lys.
- 21. The substantially pure τ -conotoxin peptide of claim 1, wherein said peptide has the sequence set forth in SEQ ID NO:17.
- 22. The substantially pure τ-conotoxin peptide of claim 1, wherein said peptide has the sequence set forth in SEQ ID NO:18, wherein Xaa₃ is Trp and Xaa₆ is Glu.

- 23. The substantially pure τ-conotoxin peptide of claim 1, wherein said peptide has the sequence set forth in SEQ ID NO:19, wherein Xaa₁ is Pro.
- A method for inducing analgesia in an individual which administering an effective amount substantially pure t-conotoxin peptide having the generic formula I: Xaa₁-Xaa₂-Xaa₃-Xaa₄-Cys-Cys-Xaa₅-Xaa₆-Xaa₇-Xaa₈- $Xaa_{9}-Cys-Cys-Xaa_{10}-Xaa_{11}-Xaa_{12}-Xaa_{13}-Xaa_{14}-Xaa_{15}-Xaa_{16}-Xaa_{17}-Xaa_{18}-Xaa_{19}-Xaa$ Xaa₁₈-Xaa₁₉ (SEQ ID NO:1), wherein Xaa₁ is des-Xaa₁, Asp, Glu or \(\gamma\)-carboxy-Glu (Gla); \(Xaa_2\) is des-Xaa2, \(Gla_1\), \(Asn.\) Glu, Trp (D or L), neo-Trp, halo-Trp or any unnatural aromatic amino acid; Xaa3 is des-Xaa3, Gly, Ala, Asn or Gln; Xaa4 is des-Xaa4, Val, Leu (D or L), Ile, Ala, Gly, Glu, Gla, Asp, Ser, Thr, Phe, Trp (D or L), neo-Trp, halo-Trp (D or L) or any unnatural aromatic amino acid; Xaa₅ is Pro, hydroxy-Pro, Gln, Asn, Glu, Gla, Ala, Gly, Lys, Arg, Ile, Val, homoarginine, ornithine, N-methyl-N, N-dimethyl-Lys, Lys, N,N,N-trimethyl-Lys unnatural basic amino acid; Xaa6 is Val, Phe, Thr, Ser, Glu, Gla, Asp, Asn, Gln, Ala, Gly, Ile, Leu (D or L), Met, Pro, hydroxy-Pro, Arg, homoarginine, ornithine, Lys, N-methyl-Lys, N,N-dimethyl-Lys, N,N,N-trimethyl-Lys, any unnatural basic amino acid or any unnatural aromatic amino acid; Xaa, is any Val, Ile, Asn, Leu (D or L), Gln, Gly, Ala, Phe, Glu, Gla, Arg, ornithine, homoarginine, Lys, N-methy-Lys, N,N-dimethyl-Lys, N,N,N-trimethyl-Lys, any unnatural basic amino acid or any unnatural aromatic amino acid; Xaa₈ is Ile, Leu (D or L), Met, Thr, Ser, Pro, hydroxy-Pro, Gln, Asp, Glu, Gla, Asn, Arg, homoarginine, ornithine, Lys, N-methy-Lys, N,N-dimethyl-Lys, N,N,Ntrimethyl-Lys, Tyr, nor-Tyr, mono-halo-Tyr, di-halo-Tyr,

O-sulpho-Tyr, O-phospho-Tyr, nitro-Tyr, any unnatural basic amino acid; any unnatural aromatic amino acid or any unnatural hydroxy containing amino acid; Xaa, is des-Xaa, Ala, Gly, Asp, Glu, Gla, Trp (D or L) neo-Trp, halo-Trp (D or L), Lys, N-methy-Lys, N,N-dimethyl-Lys, N,N,Ntrimethyl-Lys, Arg, homoarginine, ornithine, Tyr, nor-Tyr, mono-halo-Tyr, di-halo-Tyr, O-sulpho-Tyr, O-phospho-Tyr, nitro-Tyr or any unnatural basic amino acid; Xaa10 is des-Xaa₁₀, Ile, Leu (D or L), Val, Glu, Gla, Asp, Thr, Ser, Pro, hydroxy-Pro, Trp (D or L), neo-Trp, halo-Trp (D or L), Phe, any unnatural aromatic amino acid or any unnatural hydroxy containing amino acid; Xaa, is des-Xaa₁₁, Gln, Asn, Leu (D or L), Ile, Val, Ala, Gly, Trp (D or L), neo-Trp, halo-Trp (D or L), Arg, homoarginine, ornithine, Lys, N-methy-Lys, N,N-dimethyl-Lys, N,N,Ntrimethyl-Lys, any unnatural basic amino acid or any unnatural aromatic amino acid; Xaa₁₂ is des-Xaa₁₂, Ala, Gly, Phe, Trp (D or L), neo-Trp, halo-Trp (D or L) or any unnatural aromatic amino acid; Xaa₁₃ is des-Xaa₁₃, Glu, Gla, Asp, Phe or any unnatural aromatic amino acid; Xaa14 is des-Xaa₁₄, Ile, Val or Leu (D or L); Xaa₁₅ is des-Xaa₁₅, Thr, Ser, Arg, homoarginine, ornithine, Lys, N-methy-Lys, N, N-dimethyl-Lys, N, N, N-trimethyl-Lys or any unnatural basic amino acid; Xaa₁₆ is des-Xaa₁₆, Glu, Gla or Asp; Xaa₁₇ is des-Xaa17, Asn or Gln; Xaa18 is des-Xaa18, Asp, Glu or Gla; Xaa₁₉ is des-Xaa₁₉, Phe or any unnatural aromatic amino acid; and the C-terminus contains a free carboxyl group or an amide group.

25. A method for inducing analgesia in an individual which comprises administering an effective amount of the τ -conotoxin peptide of claim 1.

- 26. The method of claim 24, wherein the substantially pure τ -conotoxin peptide is modified to contain an O-glycan, an S-glycan or an N-glycan.
- 27. The method of claim 25, wherein the substantially pure τ-conotoxin peptide is modified to contain an O-glycan, an S-glycan or an N-glycan.
- 28. A method for inducing analgesia in an individual which effective amount comprises administering an pharmaceutical composition comprising a t-conotoxin peptide or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier, said t-conotoxin peptide having the generic formula I: Xaa₁-Xaa₂-Xaa₃-Xaa₄-Cys-Cys-Xaa₅-Xaa₆-Xaa₇-Xaa₈-Xaa₉-Cys-Cys-Xaa₁₀-Xaa₁₁-Xaa₁₂- $Xaa_{13}-Xaa_{14}-Xaa_{15}-Xaa_{16}-Xaa_{17}-Xaa_{18}-Xaa_{19}$ (SEQ wherein Xaa₁ is des-Xaa₁, Asp, Glu or \(\nabla\)-carboxy-Glu (Gla); Xaa₂ is des-Xaa₂, Gln, Asn, Glu, Trp (D or L), neo-Trp, halo-Trp or any unnatural aromatic amino acid; Xaa3 is des-Xaa3, Gly, Ala, Asn or Gln; Xaa4 is des-Xaa4, Val, Leu (D or L), Ile, Ala, Gly, Glu, Gla, Asp, Ser, Thr, Phe, Trp (D or L), neo-Trp, halo-Trp (D or L) or any unnatural aromatic amino acid; Xaa₅ is Pro, hydroxy-Pro, Gln, Asn, Glu, Gla, Ala, Gly, Lys, Arg, Ile, Val, homoarginine, ornithine, N-methyl-Lys, N, N-dimethyl-Lys, trimethyl-Lys or any unnatural basic amino acid; Xaa, is Val, Phe, Thr, Ser, Glu, Gla, Asp, Asn, Gln, Ala, Gly, (D or L), Met, Pro, hydroxy-Pro, homoarginine, ornithine, Lys, N-methyl-Lys, N,N-dimethyl-Lys, N,N,N-trimethyl-Lys, any unnatural basic amino acid or any unnatural aromatic amino acid; Xaa, is any Val,

Ile, Asn, Leu (D or L), Gln, Gly, Ala, Phe, Glu, Gla, ornithine, homoarginine, Lys, N-methy-Lys, dimethyl-Lys, N,N,N-trimethyl-Lys, any unnatural basic amino acid or any unnatural aromatic amino acid; Xaas is Ile, Leu (D or L), Met, Thr, Ser, Pro, hydroxy-Pro, Gln, Asp, Glu, Gla, Asn, Arg, homoarginine, ornithine, Lys, Nmethy-Lys, N,N-dimethyl-Lys, N,N,N-trimethyl-Lys, Tyr, nor-Tyr, mono-halo-Tyr, di-halo-Tyr, O-sulpho-Tyr, Ophospho-Tyr, nitro-Tyr, any unnatural basic amino acid, any unnatural aromatic amino acid or any unnatural hydroxy containing amino acid; Xaa, is des-Xaa, Ala, Gly, Asp, Glu, Gla, Trp (D or L) neo-Trp, halo-Trp (D or L), Lys, N-methy-Lys, N,N-dimethyl-Lys, N,N,N-trimethyl-Lys, Arg, homoarginine, ornithine, Tyr, nor-Tyr, mono-halo-Tyr, di-halo-Tyr, O-sulpho-Tyr, O-phospho-Tyr, nitro-Tyr or any unnatural basic amino acid; Xaa10 is des-Xaa10, Ile, Leu (D or L), Val, Glu, Gla, Asp, Thr, Ser, Pro, hydroxy-Pro, Trp (D or L), neo-Trp, halo-Trp (D or L), Phe, any unnatural aromatic amino acid or any unnatural hydroxy containing amino acid; Xaa11 is des-Xaa11, Gln, Asn, Leu (D or L), Ile, Val, Ala, Gly, Trp (D or L), neo-Trp, halo-Trp (D or L), Arg, homoarginine, ornithine, Lys, N-methy-Lys, N,N-dimethyl-Lys, N,N,N-trimethyl-Lys, any unnatural basic amino acid or any unnatural aromatic amino acid; Xaa₁₂ is des-Xaa₁₂, Ala, Gly, Phe, Trp (D or L), neo-Trp, halo-Trp (D or L) or any unnatural aromatic amino acid; Xaa₁₃ is des-Xaa₁₃, Glu, Gla, Asp, Phe or any unnatural aromatic amino acid; Xaa14 is des-Xaa14, Ile, Val or Leu (D or L); Xaa₁₅ is des-Xaa₁₅, Thr, Ser, Arg, homoarginine, ornithine, Lys, N-methy-Lys, N,N-dimethyl-Lys, trimethyl-Lys or any unnatural basic amino acid; Xaa16 is des-Xaa₁₆, Glu, Gla or Asp; Xaa₁₇ is des-Xaa₁₇, Asn or Gln;

Xaa₁₈ is des-Xaa₁₈, Asp, Glu or Gla; Xaa₁₉ is des-Xaa₁₉, Phe or any unnatural aromatic amino acid; and the C-terminus contains a free carboxyl group or an amide group.

- 29. The method of claim 28, wherein the pharmaceutical composition is modified to contain an O-glycan, an S-glycan or an N-glycan.
- 30. A method for inducing analgesia in an individual which comprises administering an effective amount of a pharmaceutical composition comprising a t-conotoxin peptide or a pharmaceutically acceptable salt thereof and a pharmaceutically acceptable carrier, said t-conotoxin peptide selected from the group consisting of:

Phe-Cys-Cys-Xaa₁-Val-Ile-Arg-Xaa₂-Cys-Cys-Xaa₃ (SEQ ID NO:2);

Phe-Cys-Cys-Xaa₁-Phe-Ile-Arg-Xaa₂-Cys-Cys-Xaa₃ (SEQ ID NO:3);

Cys-Cys-Gln-Thr-Phe-Xaa₂-Xaa₃-Cys-Cys-Gln (SEQ ID NO:4);

Xaa₄-Gly-Xaa₃-Cys-Cys-Xaa₅-Xaa₆-Asn-Ile-Ala-Cys-CysIle (SEQ ID NO:5);

Gly-Cys-Cys-Ala-Arg-Leu-Thr-Cys-Cys-Val (SEQ ID NO:6);

Asn-Gly-Cys-Cys-Xaa₁-Xaa₅-Gln-Met-Arg-Cys-Cys-Thr (SEQ ID NO:7);

Asp-Xaa₃-Asn-Ser-Cys-Cys-Gly-Xaa₅-Asn-Xaa₁-Gly-Cys-Cys-Xaa₁-Xaa₃ (SEQ ID NO:8);

Xaa₄-Gly-Xaa₃-Cys-Cys-Xaa₅-Xaa₆-Asn-Ile-Arg-Cys-Cys-Val (SEQ ID NO:9);

Xaa₆-Cys-Cys-Xaa₆-Asp-Gly-Xaa₃-Cys-Cys-Thr-Ala-Ala-Xaa₁-Leu-Thr (SEQ ID NO:10); Gly-Cys-Cys-Xaa₆-Asp-Gly-Xaa₃-Cys-Cys-Thr-Ala-Ala-Xaa₁-Leu-Thr (SEQ ID NO:11);

Asn-Gly-Cys-Cys-Arg-Ala-Gly-Asp-Cys-Cys-Ser-Arg-Phe-Xaa₆-Ile-Xaa₅-Xaa₆-Asn-Asp-Phe (SEQ ID NO:12);

Asn-Ala-Cys-Cys-Ile-Val-Arg-Gln-Cys-Cys (SEQ ID NO:13);

Asn-Gly-Cys-Cys-Arg-Ala-Gly-Asp-Cys-Cys-Ser (SEQ ID NO:14);

Cys-Cys-Xaa₁-Arg-Arg-Leu-Ala-Cys-Cys-Ile-Ile (SEQ ID NO:15);

 $Cys-Cys-Xaa_1-Asn-Xaa_5-Xaa_1-Cys-Cys-Phe-Ile$ (SEQ ID NO:16);

Gly-Cys-Cys-Ala-Met-Leu-Thr-Cys-Cys-Val (SEQ ID
NO:17);

 $\label{leu-Cys-Cys-Val-Thr-Xaa} Leu-Cys-Cys-Val-Thr-Xaa_6-Asp-Xaa_3-Cys-Cys-Xaa_6-Xaa_3-$

 $\label{eq:Val-Cys-Cys-Arg-Xaa} $$Val-Cys-Cys-Arg-Xaa_1-Val-Gln-Asp-Cys-Cys-Ser (SEQ ID NO:19);$

wherein Xaa₁ is Pro or hydroxy-Pro; Xaa₂ is Tyr, monohalo-Tyr, di-halo-Tyr, O-sulpho-Tyr, O-phospho-Tyr or nitro-Tyr; Xaa₃ is Trp or halo-Trp; Xaa₄ is Gln or pyro-Glu; Xaa₅ is Lys, N-methyl-Lys, N,N-dimethyl-Lys or N,n,N-trimethyl-Lys, Xaa₆ is Glu or gamma-carboxy-Glu (Gla); and the C-terminus contains a carboxyl or amide group.

31. The method of claim 30, wherein the pharmaceutical composition is modified to contain an O-glycan, an S-glycan or an N-glycan.